

ABSTRACT OF THE DISCLOSURE

An objective lens includes a diffractive optical element constructed of a medium having an internal transmittance of at least 50 % at a wavelength of 300 nm when the thickness is 10 mm and a cemented doublet made up of two lenses having media of different refractive indices and Abbe's numbers. The diffractive optical element is optimized to take advantage of a fluorescent wavelength. An NA of the objective lens where correction for aberration is made and an NA of the objective lens where the effective diameter is determined are different from each other to satisfy the following condition:

$$NA_e > 1.5 \times NA_c$$

where NA_e is the NA of the objective lens where the effective diameter is determined and NA_c is the NA of the objective lens where correction for aberration is made. The objective lens is constructed as a water-immersion objective lens in which the NA of the objective lens where the effective diameter is determined is at least 0.6.